

511 Bicycling Website Overview

The 511 Bicycling website includes both static information and an interactive bike trip planner, called 511 BikeMapper, which together provide bicycling information for the San Francisco Bay Area region.

Static Information

The 511 Bicycling website (<http://bicycling.511.org>) is hosted in the DMZ segment of the MTC network. The 511.org domain, including the bicycling website URL, is maintained by the 511 Traffic contractor in a dedicated DNS server. The bicycling website is developed using plain HTML and runs on an Apache 2.2.9 web server platform hosted on a RedHat Enterprise Linux (RHEL) 4.0 operating system. This web server also hosts other MTC websites and is expected to be upgraded or replaced in the near future.

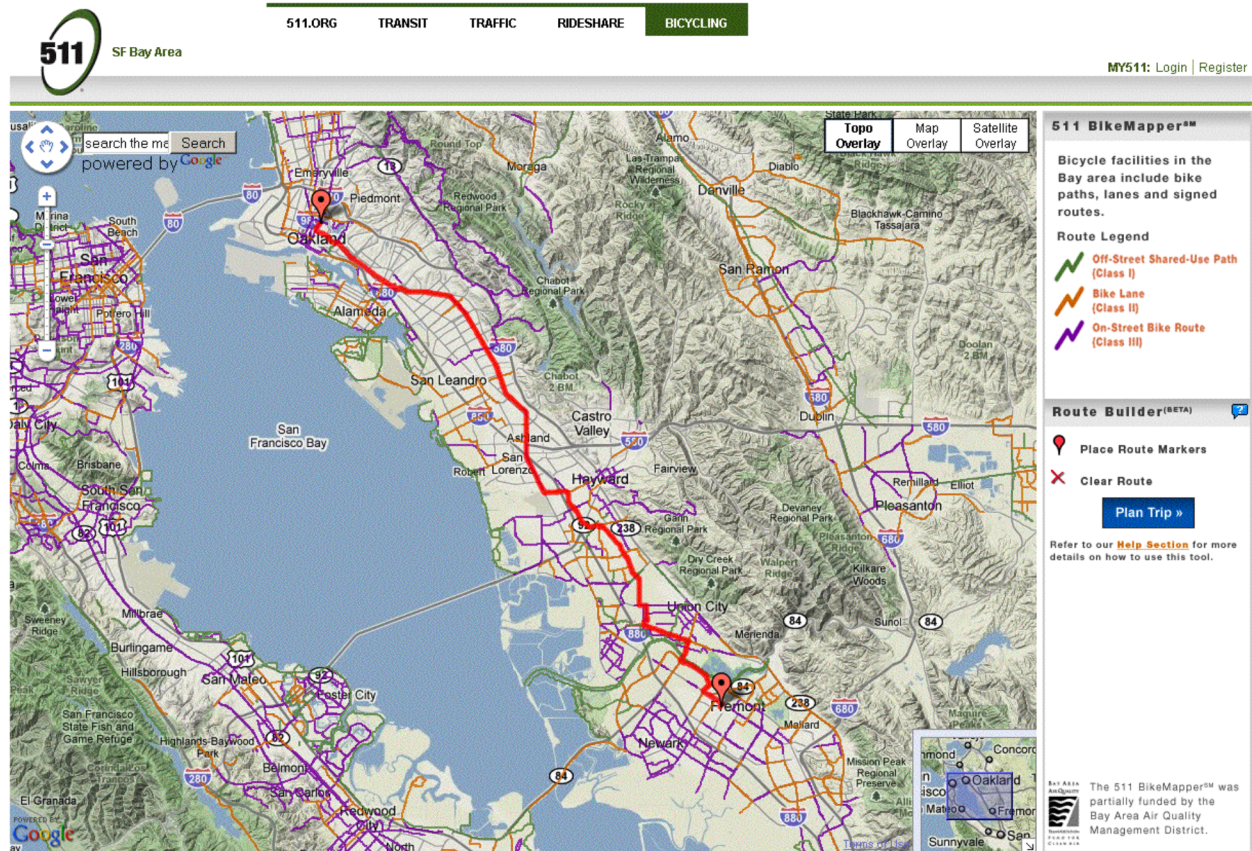
511 BikeMapper

There are two versions of the 511 BikeMapper currently running on the 511.org Bicycling website. An older version, BikeMapper 1.5, contains bike facilities information for all nine counties but has limited functionality and the bike facility information has not been updated since 2007. BikeMapper 2.0 contains updated bike facilities information for San Francisco County, only, but also provides additional functionality. MTC's GIS section is working to incorporate updated bike facilities information for all nine counties, into BikeMapper 2.0.

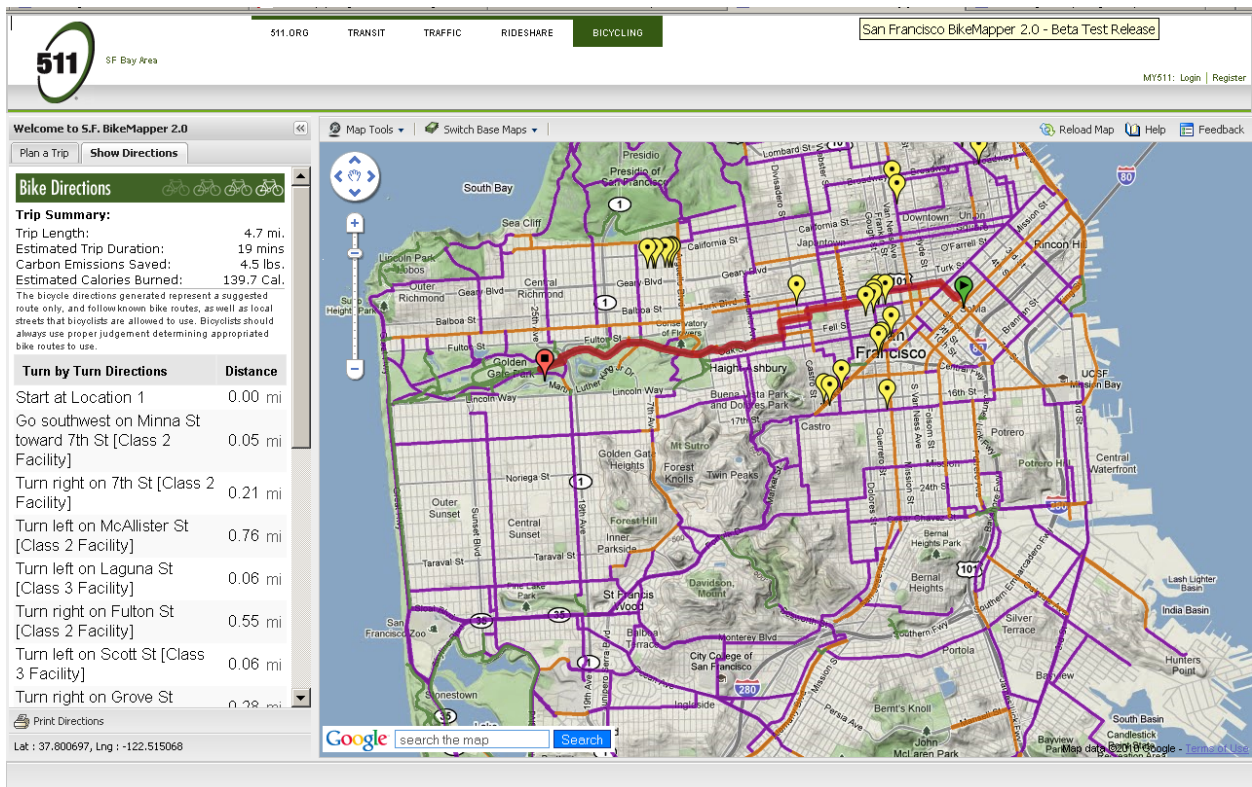
1. BikeMapper 1.5: From the 511 Bicycling website two interfaces for the BikeMapper are provided. (See screen shot 1.)
 - a. A dynamic (pan/zoom capable) map interface showing various bike facility classes. This map interface is hosted on MTC GIS map server at <http://mtcgis.mtc.ca.gov/btp/> and included on the 511 Bicycling website using an iFrame.
 - b. A standalone map based bike trip planner website accessed through a link called the Route Builder Tool. This tool provides bike riding directions, route maps, and transit connections based on user origin and destinations. For planning the bike route users can indicate various preferences including facility class, slope, and distance. The link will forward the user to the route builder application interface at http://mtcgis.mtc.ca.gov/btp/default_tripPlanner.htm.
2. BikeMapper 2.0: The new BikeMapper provides turn-by-turn directions, distance, time and calories burned calculations. The beta version is available at: <http://mtcgis.mtc.ca.gov/btp/sf-beta-app/#>. (See screen shot 2.)

Both BikeMapper 1.5 and 2.0 map services (including the route builder tool in BikeMapper 1.5) are hosted on an IIS web server within the protected MTC intranet and accessed through a proxy on the 511 Bicycling web server.

Screen Shot 1 – BikeMapper 1.5



Screen Shot 2 – BikeMapper 2.0



ArcGIS Server JavaScript Extension for Google Maps API is used in 511 BikeMapper to display ArcGIS map services output overlaid on Google Maps. ArcGIS geoprocessing services generate custom bike route directions using user inputs and preferences. ArcGIS map services provide bike and transit facilities and road slope data layers that are not part of Google Maps. Figure 1 shows how the Google Maps API is integrated in the 511 BikeMapper. The BikeMapper system is developed using:

- Microsoft .NET 2.0 Framework
- Google Mapping API version 1.4
- HTML and JavaScript programming languages
- PostgreSQL 8.3 database running on Windows 2003 Server (Standard Edition)
- ArcSDE running on Windows 2003 Server (Standard Edition)
- IIS Web Application Server running on Windows 2003 Server (Standard Edition)
- ArcGIS Server running on Windows 2003 Server (Standard Edition)

Figure 1

